Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	10/648,585	Filing Date	2003-08-25	Docket Number (if applicable)	129843-1102	Art Unit	1791
First Named Inventor	Amlan Datta			Examiner Name	Q. S. Dehghan		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 070153

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

PTO/SB/30EFS (11-08)
Approved for use through 12/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Signature of Registered U.S. Patent Practitioner			
Signature	/Monique A. Vander Molen/	Date (YYYY-MM-DD)	2009-03-10
Name	Monique A. Vander Molen	Registration Number	53716

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Amlan Datta, et al.
Application No.:	10/648,585
Filing Date:	August 25, 2003
Confirmation No.:	4088
Group Art Unit:	1791
Examiner:	Queenie S. Dehghan
For:	Synthetic Microspheres and Methods of Making Same

VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT
PURSUANT TO REQUEST FOR CONTINUED EXAMINATION
[Submission under 37 C.F.R. § 1.114(c)]

Dear Sir:

Applicants submit this paper in reply to an Office Action made final and mailed October 14, 2008. The amendments and remarks as provided herein are filed pursuant to a Request for Continued Examination under 37 C.F.R. § 1.114 submitted concurrently herewith.

In view of the following amendments and remarks, Applicants respectfully request entry of this Amendment, believed necessary to bring prosecution to a speedy conclusion and to deal justly by Applicants and the public. Applicants submit that the Amendment provided herewith defines their invention in claims that will give them patent protection to which they are justly entitled. This Amendment does not introduce matter requiring an additional search on the part of

the Examiner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and request allowance of claims pending in their Application for patent.

Provided herewith and for consideration with the above-identified Application are:

Amendments to the Claims reflected in the Listing of Claims that begin on page 3;

Remarks that begin on page 7; and

Conclusion that begins on page 10 of this paper.

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the Application for patent.

1. (PREVIOUSLY PRESENTED) A method of forming synthetic microspheres, comprising:

providing an agglomerate precursor, wherein the agglomerate precursor comprises at least one aluminosilicate material and at least one binding agent, wherein the agglomerate precursor has an alkali metal oxide content of less than about 10 wt. % based on the weight of the precursor; and

firing the precursor at a pre-determined temperature profile sufficient to combine the aluminosilicate material with the binding agent so as to form a microsphere having a substantially spherical wall, a substantial void volume and an average particle diameter greater than 30 microns.

2. (ORIGINAL) The method of claim 1, wherein the firing step comprises firing the precursor at a temperature range of between about 600 to 2500 °C.

3. (ORIGINAL) The method of claim 1, wherein the firing step is performed in a fluidized bed reactor.

4. (ORIGINAL) The method of claim 1, wherein the firing step is performed in a vortex furnace.

5. (ORIGINAL) The method of claim 1, wherein the firing step is performed in a heated vertical pipe.

6. (ORIGINAL) The method of claim 1, wherein the firing step is performed in a fuel fired furnace.

7. (ORIGINAL) The method of claim 2, wherein the firing step further comprises firing the precursor for a period of about 0.05 to 20 seconds.

8. (ORIGINAL) The method of claim 1, further comprising providing a blowing agent and activating the blowing agent during the firing step so as to release a blowing gas, thereby forming at least one substantially enclosed void in the precursor.

9. (ORIGINAL) The method of claim 8, wherein the firing step comprises forming a molten skin around the precursor.

10. (ORIGINAL) The method of claim 9, wherein the blowing agent is activated during the formation of the molten skin.

11. The method of claim 9, wherein the blowing agent is activated after the formation of the molten skin.

12. (ORIGINAL) The method of claim 9, wherein the blowing gas is substantially trapped inside the molten skin.

13. (PREVIOUSLY PRESENTED) A method of manufacturing synthetic microspheres, comprising:

providing an agglomerate precursor comprising a pre-determined amount of at least one primary component comprising an aluminosilicate and a pre-determined amount of at least one pre-selected chemical, wherein the at least one pre-selected chemical is combined with the primary component to form a mixture and wherein the agglomerate precursor has an alkali metal oxide content of less than 10 wt. % based on the weight of the precursor;

drying the mixture to form the agglomerate precursor to a first moisture level; and

firing the agglomerate precursor so as to react the at least one pre-selected chemical to form substantially spherical microspheres having a substantial void volume and an average diameter greater than 30 microns.

14. (ORIGINAL) The method of claim 13, wherein the at least one pre-selected chemical comprises a binding agent.

15. (ORIGINAL) The method of claim 14, wherein the at least one pre-selected chemical further comprises a blowing agent, wherein the blowing agent, when reacted in the firing step, releases an amount of blowing gas, wherein the blowing gas expands the precursor thereby forming a plurality of microspheres with one or more substantially enclosed voids therein.

16. (CURRENTLY AMENDED) The method of claim 13 ~~claim 15~~, wherein the aluminosilicate in the primary component in selected from the group consisting of fly ash, basaltic rocks and combinations thereof, wherein the blowing agent is selected from the group consisting of powdered coal, carbon black, sugar, and silicon carbide, wherein the binding agent is selected from the group consisting of alkali silicates, hydroxides, and combinations thereof.

17. (ORIGINAL) The method of claim 13, wherein the firing step comprises firing the mixture at a temperature range of between about 600 to 2500 °C.

18. (ORIGINAL) The method of claim 13, further comprising rapidly cooling the synthetic microspheres after the firing step.

19. (ORIGINAL) The method of claim 15, wherein the blowing gas is selected from the group consisting of CO_2, CO, O_2, N_2, N_2O, NO, SO_2, H_2O, and mixtures thereof.

20. (ORIGINAL) The method of claim 13, wherein drying the precursor to a first moisture level comprises drying the precursor to a moisture level of less than about 14 wt. %.

21. (ORIGINAL) The method of claim 13, wherein the drying step comprises drying the agglomerate at a temperature of about 400 °C. prior to the firing step.

22. (ORIGINAL) The method of claim 13, wherein the drying step comprises drying the agglomerate at a temperature of about 50 °C. prior to the firing step.

23. (ORIGINAL) The method of claim 13, wherein the drying step is configured to remove moisture from the precursor so as to substantially reduce rupturing of the agglomerates during the firing step.

24. (PREVIOUSLY PRESENTED) A method of forming synthetic microspheres, comprising:

providing an agglomerate precursor, wherein the agglomerate precursor comprises a primary component with at least one aluminosilicate material of a pre-selected particle size, a blowing agent configured to release a gas when activated and a binding agent, wherein the agglomerate precursor is formed by:

mixing the primary component, blowing agent and binding agent with water to form a substantially homogenous mixture; and

drying the mixture to form the agglomerate precursor; and

firing the precursor at a predetermined temperature and a predetermined period of time to activate the blowing agent to release gas, wherein the temperature is greater than 800 degrees Centigrade and the time is 20 seconds or less, thereby forming microspheres with an internal void and an alkali metal oxide content of less than about 10 wt. %

Remarks

Claims 1-24 are pending with this Application.

In the Office Action made final and mailed October 14, 2008, Claims 16 was rejected under 35 U.S.C. 112, second paragraph, for including two claim numbers. Applicants thank the Examiner for noting this and have corrected the duplication.

Claims 1-2, 6 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Application Publication No. 2002/0004111 (hereinafter "Matsubara"). Dependent claims, including Claims 3, 5, 8, 9, 11-15, 17-20 and 23 were rejected as being unpatentable over Matsubara in view of U.S. Patent No. 3.838,998 (hereinafter "Matthews") or JP Publication No. 07024299 (Abstract only, hereinafter, "Seki") and/or further in view of U.S. Patent No. 2,978,340 (hereinafter, "Veatch") or Publication No. SU 1650196 (Abstract only; hereinafter, "Kizilshtei") or U.S. Patent No. 4,235,753 (hereinafter, "Brown") or U.S. Patent No. 3,888,957 (hereinafter, "Netting").

Applicants respectfully point out that the rejections raised by the Examiner appear to be cyclical (as they had been raised before) and there are several key and continued misunderstandings with regard to the subject invention and those cited by others. Applicants respectfully note that they have to date already addressed both Matsubara and Matthews on three separate occasions with very specific details regarding how the two references do not teach the claimed invention nor is there any ability to combine the two references because they expressly teach very different spheres and processes of making very different spheres.

Applicants again point out that the teachings of Matsubara and Matthews do not overlap and their methods rely on very separate processes. The Examiner is also requested to review Applicants response mailed September 10, 2007, another response mailed October 23, 2007, which were also discussed in a telephone interview held with the Examiner on August 30, 2007.

On each of these occasions, the difference processes taught by Matsubara as compared with Matthews were discussed and with some detail. Applicants remarks are reiterated below.

Matsubara uses a very different method of making particles than taught and claimed by Applicants (or as taught by Matthews). Matsubara creates glass particles from a liquid slurry of fine granulated (pulverized) particles not from an agglomerate precursor (e.g., [0035], [0050]). The liquid slurry of Matsubara consists of tiny particles , at most 3.0 μm, preferably 2.0 μm. Matsubara's liquid slurry includes a combustible liquid so that once sprayed, heated fine liquid droplets become tiny molten droplets that combust forming tiny glass spheres (e.g., [para. 0050]). As such, the formed spheres of Matsubara are very small, "at most 30 um" [e.g., para. 0012]. In fact, the formed spheres of Matsubara are desired to be not more than 15 μm because otherwise Matsubara explains that the particles are not satisfactory and lose the required surface characteristics and there is deterioration of other properties as well (e.g., para. 0017]). Matsubara's glass spheres are designed to be absent of any alkali metal, stating specifically as "containing no alkali metal or substantially no alkali metal" (para. [0060]). Hence Matsubara does not prepare an agglomerate precursor, does not fire the agglomerate precursor and does not prepare microspheres having an average diameter greater than 30 microns, as is claimed by Applicants' claimed invention. Matsubara does not teach each and every element of Applicant's claimed invention or the claimed invention on its whole. Accordingly, Matsubara cannot anticipate or be obvious over the claimed invention.

Matsubara's method of making a sphere cannot be combined with that of Matthews because the two processes are entirely different. One cannot take an individual step or composition of an entirely different method and assume it will work on another very different method without explicit evidence. The Examiner has not provided any such explicit evidence to support the suggestion of obviousness, which is required to form a *prima facie* case. Unlike Matsubara, Mathews does not prepare spheres from a fine liquid droplet nor does Matthews form particles less than 30 microns in size. Furthermore, Matthews specifically requires an alkali metal oxide content of about 20 wt. % in its feed particles (e.g., Col. 6, ll.50-56) in order to

create and achieve its spheres, which are stated to have a size range of 50 to 5000 microns (e.g., Abstract; Col. 11, ll. 33-36). Matthews' spheres are formed from a high temperature and a low temperature glass former. Thus, the two teachings of Matsubara as compared with Matthews, are very different and there is no understanding of how they can be combined. The Examiner is respectfully requested to provide specific secondary evidence showing how such references can be combined to prepare Applicants' claimed invention. Applicants have shown that the teachings of Matsubara and Matthews cannot be combined nor is there any suggestion, implicit or explicit, to do so. One of skill in the art would certainly not look to either reference to arrive at Applicants' claimed invention because neither reference suggest the claimed invention, each and every element or on the invention on its whole nor is there a likely combination of the two references. Because neither Matsubara nor Matthews alone or when combined teach each and every element of Applicant's claimed invention or the claimed invention on its whole, the references are not obvious and the claimed invention is patentable. Further combinations of references with Matsubara or Matthews, including references such as Seki, Veatch, Kizilshtei, Brown or Netting, do not overcome the overarching inability to combine Matsubara and Matthews.

Applicants respectfully request all rejections under 35 U.S.C. 112, second paragraph, and 103(a) be removed and the application be considered for allowance.

Conclusion

Applicants respectfully submit that the Application for patent is in condition for allowance, and pursuant to the filing of this Amendment, a Request for Continued Prosecution, a Petition for Extension of Time and the appropriate fees, Applicants earnestly seek allowance of the claims, as provided in the Listing of Claims beginning on page 3 of this paper.

Should the Examiner have questions, comments, or suggestions in furtherance of the prosecution of this Application, please contact Applicants' representative at 214-999-4330. Applicants, through their representative, stand ready to conduct a telephone interview with the Examiner to review this Application if the Examiner believes that such an interview would assist in the advancement of this Application.

To the extent that any further extension fees are required, the Commissioner is hereby authorized to charge payment of any additional fees to Deposit Account No. 07-0153 of Gardere Wynne Sewell LLP and reference Attorney Docket No. 129843-1102. Please credit any overpayments to this same Deposit Account.

This is intended to be a complete response to the Office Action made final and mailed October 14, 2008.

Please direct all correspondence to the practitioner listed below at Customer No. 60148.

Respectfully submitted,

Monique A. Vander Molen
Registration No. 53,716

Dated: March 10, 2009

PTO/SB/22 (11-08)
Approved for use through 12/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** (*Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).*)	Docket Number (Optional) 129843-1102
Application Number 10/348,585	Filed August 25, 2003
For Synthetic Microspheres and Methods of Making Same	
Art Unit 1791	Examiner Dehghan

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☑	Two months (37 CFR 1.17(a)(2))	$490	$245	$ 490.00
☐	Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 070153.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number 53,716

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

/Monique A. Vander Molen/ — Signature

March 10, 2009 — Date

Monique A. Vander Molen — Typed or printed name

214-999-3000 — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☑ Total of 1 forms are submitted.

Electronic Patent Application Fee Transmittal

Application Number:	10648585
Filing Date:	25-Aug-2003
Title of Invention:	Synthetic microspheres and methods of making same
First Named Inventor/Applicant Name:	Amlan Datta
Filer:	Monique A. Vander Molen
Attorney Docket Number:	129843-1102

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with $0 paid	1252	1	490	490

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	1801	1	810	810
		Total in USD ($)		**1300**

Electronic Acknowledgement Receipt

EFS ID:	4938029
Application Number:	10648585
International Application Number:	
Confirmation Number:	4088
Title of Invention:	Synthetic microspheres and methods of making same
First Named Inventor/Applicant Name:	Amlan Datta
Customer Number:	60148
Filer:	Monique A. Vander Molen
Filer Authorized By:	
Attorney Docket Number:	129843-1102
Receipt Date:	10-MAR-2009
Filing Date:	25-AUG-2003
Time Stamp:	15:09:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1300
RAM confirmation Number	499
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Request for Continued Examination (RCE)	RCE.pdf	33369 8c7adcc777f650ba2b4cd09491152163a58b0e80	no	2
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Amendment Submitted/Entered with Filing of CPA/RCE	amendment.pdf	406699 ec6b7d26b6f29cfeaa544d38ec96483c11e9f9de	no	10
Warnings:					
Information:					
3	Extension of Time	Petition.pdf	45419 fc00a3891f9ec48e80ceee8f7d17c7b2905d2de1	no	1
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	31609 4e8af166c357789fc41a30865dc82b4b7f0770b3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	517096		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.